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I. THE OBJECTION TO THE DRAWINGS

Enclosed with this response is a replacement drawing sheet which includes an amended Figure 1. The amended Figure 1 shows all of the elements in solid lines. The Applicant believes that the amended Figure 1 obviates the objection to the drawings set out at Section 1 of the Office Action.

III. THE AMENDED CLAIMS ARE NOT OBJECTIONABLE UNDER 35 U.S.C. §112

Rejections Relating to the Term “Amplified Spontaneous Emission”

The Applicant respectfully disagrees with the assertion in the Office Action that the term “amplified spontaneous emission” is only used to designate a type of scattered light emitted from

1 gain media with discrete levels such as Erbium-doped fibers. The Applicant believes that the
2 term "amplified spontaneous emission" is known in the art to refer to any type of light, produced
3 by spontaneous emission, that has been optically amplified by the process of stimulated emission
4 in a gain medium. The gain medium may be any gain medium and not only gain media with
5 discrete levels. Thus the Applicant submits that there is no reason to limit the disclosure in the
6 present application to any particular type of gain medium. The Applicant intends that the
7 invention encompass any type of optical amplifier and fiber used for the signal transmission. The
8 term "amplified spontaneous emission" is to be understood in its broadest sense as understood in
9 the art.

10 Rejections Relating to the Phrase "In Particular"

11 The Office Action rejected claims 1 and 11 under 35 U.S.C. §112, second paragraph, in
12 view of the phrase "in particular" appearing in those claims. The amended claims presented
13 above eliminate the phrase "in particular," and thus are believed to obviate the Section 112,
14 second paragraph rejections on this ground stated at Section 6 of the Office Action.

15 For all of these reasons the Applicant respectfully requests that the Section 112 rejections
16 be withdrawn.

17
18 IV. THE NEW CLAIMS ARE NOT ANTICIPATED BY THE CITED ART

19 The Office Action rejected claims 1-3 and 11-13 under 35 U.S.C. §102(b) as being
20 anticipated by U.S. Patent No. 7,031,049 to Kamada, et al. ("Kamada" or the "Kamada patent").
21 The Applicants respectfully submit that the new claims are not anticipated by Kamada.

1 Element (a) of new claim 15 requires generating an optical pump that is modulated during
2 an amplifier start up period. This modulation allows the detection of the amplified spontaneous
3 emission signal in a phase-sensitive manner as required at element (b) of claim 15. This pump
4 power modulation and phase-sensitive detection is discussed in the original English translation of
5 the application at the first paragraph of page 7.

6 New claim 28 requires a control unit that functions to modulate the pump power of the
7 optical signal during optical amplifier start up. Claim 28 further includes a detector unit for
8 detecting the power level of a resulting amplified spontaneous emission in a phase-sensitive
9 manner.

10 Kamada does not teach or suggest the modulation of pump power required in both of the
11 new independent claims. Kamada discloses no technique for detecting optical transmission line
12 faults during the start up procedure for the optical amplifier. Because Kamada does not disclose
13 this modulation of pump power during start up and does not disclose the phase-sensitive
14 detection of the amplified spontaneous emission signal in an optical transmission line, the
15 Applicant believes that new claims 15 and 28 and their respective dependent claims are not
16 anticipated by Kamada.

17
18 V. THE NEW CLAIMS ARE NOT OBVIOUS OVER THE CITED ART

19 The Office Action rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over
20 Kamada in view of U.S. Patent No. 6,879,434 to Aoki et al. ("Aoki" or the "Aoki patent"). The
21 Applicants respectfully submit that the new claims are not obvious in view of Kamada and Aoki
22 because the proposed combination does not include each element required in the present claims.

1 The Office Action cited Aoki for its disclosure regarding the production of error
2 messages to indicate certain optical signal path faults. However, Aoki does not make up for the
3 deficiencies of Kamada with respect to the modulation of pump power required in new
4 independent claims 15 and 28. Aoki does not teach or suggest the modulation of pump power
5 required in the new claims. Because neither reference individually discloses or suggests the
6 modulated pump power feature, the proposed combination of Kamada and Aoki cannot include
7 the feature. The Applicant therefore respectfully submits that claims 15 and 28 are not obvious
8 over Kamada and Aoki, and are entitled to allowance together with their respective dependent
9 claims.

1 VI. CONCLUSION

2 For all of the above reasons the Applicant respectfully requests consideration and
3 allowance of new claims 15-33.

4 If the Examiner should feel that any issue remains as to the allowability of these claims,
5 or that a conference might expedite allowance of the claims, the Examiner is asked to telephone
6 the undersigned attorney at the number listed below.

7
8 Respectfully submitted,

9 THE CULBERTSON GROUP, P.C.

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11 Date: 26 Oct 2007

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